

WHAT IS CLAIMED IS:

1. A data processing apparatus that can transmit a printing job to an image recording apparatus having a plurality of sheet discharge ports or an image recording apparatus to which an optional device having a plurality of sheet discharge ports can be connected comprising:

registering means for instructing said image recording apparatus to register a discrimination name 10 for each of said sheet discharge ports respectively;

obtaining means for requesting to obtain a discrimination name of each sheet discharge port registered in said image recording apparatus from said image recording apparatus;

15 designating means for displaying the discrimination name obtained by said obtaining means, designating to select a plurality of sheet discharge addresses from the displayed discrimination name respectively by a predetermined unit of printing data and, at the same time, designating the number of sheet discharge copies for each sheet discharge address designated by said predetermined unit of printing data; 20 and

25 preparing means for preparing a printing job by including each designation of the plurality of sheet discharge addresses by said predetermined unit of printing data by said designating means and each

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designation of the number of sheet discharge copies of each sheet discharge address to be designated by said predetermined unit of printing data all in one printing job.

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2. A data processing apparatus according to Claim 1, wherein said registering means is for instructing said image recording apparatus to register a discrimination name for each of said sheet discharge ports and the number of members belonging to the discrimination name respectively, said obtaining means is for obtaining a discrimination name registered in each sheet discharge port of said image recording apparatus and the number of members belonging to the discrimination name from said image recording apparatus, and said designating means is for designating the number of members belonging to the discrimination name of the sheet discharge port obtained by said obtaining means or an arbitrary number of copies in the number of sheet discharge copies of each sheet discharge address designated to be selected by said predetermined unit of printing data.

3. A data processing apparatus according to Claim 1, further comprising storing means for storing a plurality of character strings as discrimination names, wherein said registering means registers an inputted

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character string or a character string selected from the plurality of character strings stored in said storing means as a discrimination name of a sheet discharge port in said image recording apparatus.

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4. A data processing apparatus according to Claim 1, wherein said predetermined unit of printing data includes a page unit of printing data.

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5. A data processing apparatus according to Claim 1, wherein said printing data includes a plurality of printing data prepared by identical or different applications.

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6. A data processing apparatus according to Claim 1, wherein reporting means for reporting information of a sheet discharge port to which a printing job is outputted that is notified at the time of finishing processing of the printing job from said image recording apparatus.

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7. A data processing apparatus that can transmit printing data to an image recording apparatus having a plurality of sheet discharge ports comprising:

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obtaining means for obtaining a discrimination name registered in each sheet discharge port of said image recording apparatus;

designating means for displaying the discrimination name obtained by said obtaining means, designating to select a plurality of sheet discharge addresses from the displayed discrimination name 5 respectively by a predetermined unit of printing data and, at the same time, designating the number of sheet discharge copies for each sheet discharge address designated by said predetermined unit of printing data; and

10 preparing means for preparing a printing job by including each designation of the plurality of sheet discharge addresses by said predetermined unit of printing data by said designating means and each designation of the number of sheet discharge copies of 15 each sheet discharge address to be designated by said predetermined unit of printing data all in one printing job.

8. A data processing apparatus according to Claim 20 7, wherein said obtaining means is for obtaining a discrimination name registered in each sheet discharge port of said image recording apparatus and the number of members belonging to the discrimination name from said image recording apparatus, and said designating 25 means is for designating the number of members belonging to the discrimination name of the sheet discharge port obtained by said obtaining means or an

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arbitrary number of copies in the number of sheet  
discharge copies of each sheet discharge address  
designated to be selected by said predetermined unit of  
printing data.

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9. A data processing apparatus according to Claim  
8, wherein said discrimination name is information for  
representing an owner using the sheet discharge port  
including a user name, a group name and a department  
10 name.

10. An image recording apparatus that can  
discharge a printing result of a printing job received  
from a data processing apparatus to a plurality of  
15 sheet discharge port comprising:

registering means for registering a discrimination  
name of each of said sheet discharge port that is  
instructed to be registered by said data processing  
apparatus;

20 first notifying means for notifying said data  
processing apparatus of the discrimination name of each  
of said sheet discharge port registered by said  
registering means in accordance with a request from  
said data processing apparatus;

25 preparing means for preparing page information for  
a plurality of discrimination names of a predetermined  
unit of printing data included in one printing job by

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said predetermined unit of printing data based on the  
notification of said first notifying means;

retrieving means for retrieving a sheet discharge  
port to which a discrimination name identical with a  
5 plurality of discrimination names of a predetermined  
unit of printing data included in said one printing  
job; and

controlling means for instructing the discharge of the number of sheet discharge copies for each sheet discharge port retrieved by said retrieving means and each sheet discharge address designated by said predetermined unit of printing data with respect to each piece of page information prepared by said preparing means.

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11. An image recording apparatus according to  
Claim 10, wherein said registering means is for  
registering a discrimination name of each of said sheet  
discharge ports instructed to be registered by said  
data processing apparatus and the number of members  
belonging to the discrimination name, and said first  
notifying means is for notifying said data processing  
apparatus of the discrimination name for each of said  
sheet discharge ports registered by said registering  
means and the number of members belonging to the  
discrimination name in accordance with a request from  
said data processing apparatus.

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12. An image recording apparatus according to  
Claim 10, wherein said predetermined unit of printing  
data includes a page unit of printing data.

5 13. An image recording apparatus according to  
Claim 10, wherein said printing data includes a  
plurality of printing data prepared by identical or  
different applications.

10 14. An image recording apparatus according to  
Claim 10, further comprising:

storing means for storing the state of each of said sheet discharge ports to be observed by observing the state of each of said sheet discharge ports;

15 second notifying means for notifying said data processing apparatus of the state of an abnormal sheet discharge port if an abnormality in the state of each sheet discharge port stored in said storing means exists; and

20                   third notifying means for notifying said data  
processing apparatus of information of the sheet  
discharge port to which said printing job is outputted  
at the time of finishing processing of said printing  
job.

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15. An image recording apparatus according to  
Claim 14, wherein said storing means stores a loading

status, a discrimination name, a using status and the like of each sheet discharge port for each sheet discharge port.

5           16. An image recording apparatus according to  
Claim 10, wherein said plurality of sheet discharge  
ports include a plurality of sheet discharge ports  
provided in an image recording apparatus main body and  
a plurality of sheet discharge port provided in an  
10          optional apparatus to be connected to an image  
recording apparatus main body.

15          17. An image recording apparatus according to  
Claim 10, wherein said discrimination name is  
information for representing an owner using the sheet  
discharge port including a user name, a group name and  
a department name.

20          18. A controlling method of a data processing  
apparatus that can transmit a printing job to an image  
recording apparatus having a plurality of sheet  
discharge ports or an image recording apparatus to  
which an optional device having a plurality of sheet  
discharge ports can be connected comprising the steps  
25          of:

              instructing said image recording apparatus to  
register a discrimination name for each of said sheet

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discharge ports respectively;

requesting to obtain a discrimination name of each sheet discharge port registered in said image recording apparatus from said image recording apparatus;

- 5       displaying the discrimination name obtained by said obtaining means, designating to select a plurality of sheet discharge addresses from the displayed discrimination name respectively by a predetermined unit of printing data and, at the same time,
- 10      designating the number of sheet discharge copies for each sheet discharge address designated by said predetermined unit of printing data; and
- 15      preparing a printing job by including each designation of the plurality of sheet discharge addresses by said predetermined unit of printing data by said designating means and each designation of the number of sheet discharge copies of each sheet discharge address to be designated by said predetermined unit of printing data all in one printing
- 20      job.

19. A controlling method of a data processing apparatus that can transmit printing data to an image recording apparatus having a plurality of sheet discharge port comprising the steps of:
  - requesting to obtain a discrimination name registered in each sheet discharge port of said image

recording apparatus;

displaying the obtained discrimination name,  
designating to select a plurality of sheet discharge  
addresses from the displayed discrimination name  
5 respectively by a predetermined unit of printing data  
and, at the same time, designating the number of sheet  
discharge copies for each sheet discharge address  
designated by said predetermined unit of printing data;  
and

0 preparing a printing job by including each  
designation of the plurality of sheet discharge  
addresses by said predetermined unit of printing data  
and each designation of the number of sheet discharge  
copies of each sheet discharge address to be designated  
5 by said predetermined unit of printing data all in one  
printing job.

20. A controlling method of an image recording apparatus that can discharge a printing result of a printing job received from a data processing apparatus to a plurality of sheet discharge ports comprising the steps of:

registering a discrimination name of each of said sheet discharge ports that is instructed to be registered by said data processing apparatus;

25 notifying said data processing apparatus of the registered discrimination name of each of said sheet

discharge ports in accordance with a request from said data processing apparatus;

5 preparing page information for a plurality of discrimination names of a predetermined unit of printing data included in one printing job by said predetermined unit of printing data based on the notification;

10 retrieving a sheet discharge port to which a discrimination name identical with a plurality of discrimination names of a predetermined unit of printing data included in said one printing job is registered; and

15 instructing the discharge of the number of sheet discharge copies for each sheet discharge port retrieved by said retrieving means and each sheet discharge address designated by said predetermined unit of printing data with respect to each piece of the prepared page information.

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21. A computer readable storage medium storing a program for causing a data processing apparatus that can transmit a printing job to an image recording apparatus having a plurality of sheet discharge ports or an image recording apparatus to which an optional device having a plurality of sheet discharge ports can be connected to execute the steps of:

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instructing said image recording apparatus to register a discrimination name for each of said sheet discharge ports respectively;

requesting to obtain a discrimination name of each  
sheet discharge port registered in said image recording  
apparatus from said image recording apparatus;

displaying the discrimination name obtained by  
said obtaining means, designating to select a plurality  
of sheet discharge addresses from the displayed  
10 discrimination name respectively by a predetermined  
unit of printing data and, at the same time,  
designating the number of sheet discharge copies for  
each sheet discharge address designated by said  
predetermined unit of printing data; and  
15 preparing a printing job by including each  
designation of the plurality of sheet discharge  
addresses by said predetermined unit of printing data  
by said designating means and each designation of the  
number of sheet discharge copies of each sheet  
20 discharge address to be designated by said  
predetermined unit of printing data all in one printing  
job.

22. A computer readable storage medium storing a  
25 program for causing a data processing apparatus that  
can transmit printing data to an image recording  
apparatus having a plurality of sheet discharge ports

to execute the steps of:

requesting to obtain a discrimination name registered in each sheet discharge port of said image recording apparatus;

5 displaying the obtained discrimination name, designating to select a plurality of sheet discharge addresses from the displayed discrimination name respectively by a predetermined unit of printing data and, at the same time, designating the number of sheet 10 discharge copies for each sheet discharge address designated by said predetermined unit of printing data; and

15 preparing a printing job by including each designation of the plurality of sheet discharge addresses by said predetermined unit of printing data and each designation of the number of sheet discharge copies of each sheet discharge address to be designated by said predetermined unit of printing data all in one printing job.

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23. A computer readable storage medium storing a program for causing an image recording apparatus that can discharge a printing result of a printing job received from a data processing apparatus to a 25 plurality of sheet discharge ports to execute the steps of:

registering a discrimination name of each of said

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sheet discharge ports that is instructed to be registered by said data processing apparatus;

notifying said data processing apparatus of the registered discrimination name of each of said sheet discharge ports in accordance with a request from said data processing apparatus;

preparing page information for a plurality of discrimination names of a predetermined unit of printing data included in one printing job by said predetermined unit of printing data based on the notification;

retrieving a sheet discharge port to which a discrimination name identical with a plurality of discrimination names of a predetermined unit of printing data included in said one printing job is registered; and

instructing the discharge of the number of sheet  
discharge copies for each sheet discharge port  
retrieved by said retrieving means and each sheet  
20 discharge address designated by said predetermined unit  
of printing data  
with respect to each piece of the prepared page  
information.

25           24. A data processing apparatus that can transmit  
a printing job to an image recording apparatus having a  
plurality of storing units or an image recording

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apparatus to which an optional apparatus having a plurality of storing units can be connected comprising;

5       first transmitting means for transmitting first data for requesting management information including information indicating a discrimination name of each storing unit of said plurality of storing units managed by an external storage apparatus;

10      obtaining means for obtaining said management information from said external storage apparatus outputted in response to the transmission of said first data;

15      display controlling means for causing to display a screen that is prepared based on said management information obtained by said obtaining means for designating a distribution method of printing data to said plurality of storing units; and

20      second transmitting means for transmitting second data including an instruction to cause said image recording apparatus to operate to distribute printing data to said plurality of storing units by a distribution method in accordance with an instruction from a user inputted via said screen.

25      25. A data processing apparatus according to Claim 24, wherein said display controlling means causes to display a screen that can designate a desired distribution method out of a plurality of distribution

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method candidates, and said second transmitting means generates said second data including an instruction distinguishing said plurality of distribution methods each other and transmits the data to said image recording apparatus.

26. A data processing apparatus according to  
Claim 25, wherein said plurality of distribution  
methods include a first distribution method for  
10 distributing printing data by one page unit to  
respective distribution object storing units and a  
second distribution method for distributing printing  
data by one file unit to respective distribution object  
storing units, and said second transmitting means  
15 generates said second data including an instruction  
distinguishing said plurality of distribution method  
including said first distribution method and said  
second distribution method each other and transmits the  
data to said image recording apparatus.

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27. A data processing apparatus according to  
Claim 24, wherein said second transmitting means  
transmits printing data including a plurality of files  
as one printing job together with said second data  
25 collectively to said image recording apparatus.

28. A data processing apparatus according to

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Claim 27, wherein said plurality of files are files respectively prepared by different sorts of application software.

5           29. A data processing apparatus according to  
Claim 27, wherein said plurality of distribution  
methods include a first distribution method for  
distributing printing data by one page unit to  
respective distribution object storing units, a second  
10          distribution method for distributing printing data by  
one file unit to respective distribution object storing  
units, and a third distribution method for distributing  
printing data by one job unit consisting of printing  
data including a plurality of files to respective  
15          distribution object storing units, and said second  
transmitting means generates said second data including  
an instruction distinguishing said plurality of  
distribution methods including said first, second and  
third distribution methods each other and transmits the  
20          data to said image recording apparatus.

30. A data processing apparatus according to  
Claim 24, wherein said second data includes data for  
specifying printing data to be distributed for each  
25          distribution object storing unit.

31. A data processing apparatus according to

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Claim 30, wherein said image recording apparatus makes printing data to be distributed to each distribution object storing unit different based on said second data from said data processing apparatus.

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32. A controlling method of a system having a data processing apparatus that can transmit printing job to an image recording apparatus having a plurality of storing units or an image recording apparatus to which an optional devices having a plurality of storing units can be connected comprising:

a first step for transmitting a first data for requesting management information including information indicating a discrimination name of each storing unit of said plurality of storing units managed by a remote external storage apparatus;

a second step of obtaining said management information from said external storage apparatus outputted in response to the transmission of said first data;

a third step of causing to display a screen to be generated based on said management information obtained by said second step for designating a distribution method of printing data to said plurality of storing units; and

a fourth step of transmitting second data including an instruction to cause said image recording

apparatus to distribute printing data to said plurality of storing units by a distribution method in accordance with an instruction from a user inputted via said screen to said image recording apparatus.

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33. A computer readable storage medium storing a program for causing an data processing apparatus that can transmit a printing job to an image recording apparatus having a plurality of storing units or an image recording apparatus to which an optional apparatus having a plurality of storing units can be connected to execute the steps of:

10 a first step for transmitting a first data for requesting management information including information indicating a discrimination name of each storing unit of said plurality of storing units managed by a remote external storage apparatus;

15 a second step of obtaining said management information from said external storage apparatus outputted in response to said command data;

20 a third step of causing to display a screen to be generated based on said management information obtained by said second step for designating a distribution method of printing data to said plurality of storing units; and

25 a fourth step of transmitting second data including an instruction to cause said image recording

apparatus to distribute printing data to said plurality of storing units by a distribution method in accordance with an instruction from a user inputted via said screen to said image recording apparatus.

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34. An image recording apparatus that can be connected to an optional apparatus having a plurality of storing units and can receive a printing job from a remote data processing apparatus, wherein said data processing apparatus output a first data including an instruction to cause said image recording apparatus to distribute printing data to said plurality of storing units by a distribution method in accordance with an instruction from a user inputted based on management information including information indicating a discrimination name of each storing unit of said plurality of storing units managed by the storage apparatus, and further comprising:

receiving means for receiving said first data outputted from said data processing apparatus; and controlling means for controlling to distribute the printing data received from said data processing apparatus corresponding to said first data to a storing unit based on said first data received by said receiving means by a distribution method based on said first data.

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35. An image recording apparatus according to  
Claim 34, further comprising:

receiving means for receiving second data for  
requesting said management information stored in said  
5 storage apparatus to be outputted from said data  
processing apparatus; and

10 transmitting means for reading out said management  
information from said storage apparatus in response to  
the reception of said second data by said receiving  
means and transmitting the information to said data  
processing apparatus having outputted said second data.

36. An image recording apparatus according to  
Claim 34, further comprising:

15 notifying means for notifying of a user outputting  
said printing data and a user corresponding to a  
distribution object storing unit that the distribution  
of said printing data to said storing unit has been  
finished in accordance with the end of the  
20 distribution.

37. An image recording apparatus that can be  
connected to an optional apparatus having a plurality  
of storing units and can receive a printing job from a  
25 remote data processing apparatus comprising:

receiving means for receiving first data including  
an instruction for designating a distribution method of

printing data to said plurality of storing units outputted from said data processing apparatus; and

controlling means for confirming the contents of said first data received by said receiving means and

5 causing to execute the distribution of printed data by a unit designated by a user of said data processing apparatus to respective distribution object storing units based on the contents of said first data.

10 38. An image recording apparatus according to Claim 37, wherein said controlling means causes to execute the distribution of printing data by one page unit to respective distribution object storing units based on the contents of said first data.

15 39. An image recording apparatus according to Claim 38, wherein said controlling means causes to execute the distribution of printing data of different pages to each distribution object storing unit

20 respectively based on the contents of said first data.

40. An image recording apparatus according to Claim 37, wherein said controlling means causes to distribute printing data by one file unit to each of the distribution object storing units based on the

25 contents of said first data.

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41. An image recording apparatus according to  
Claim 40, wherein, if a plurality of files are included  
in printing data for one job to be received  
corresponding to said first data, said controlling  
5 means causes to execute the distribution of printing  
data of different files to each distribution object  
storing unit respectively based on the contents of said  
first data.

10 42. An image recording apparatus according to  
Claim 37, wherein, if a plurality of files are included  
in printing data for one job to be received  
corresponding to said first data, said controlling  
means causes to execute the distribution of printing  
15 data by one job unit to each distribution object  
storing unit based on the contents of said first data.

43. An image recording apparatus according to  
Claim 42, wherein said plurality of files are files  
20 prepared by different sorts of application software  
respectively.

44. An image recording apparatus according to  
Claim 37, wherein said controlling means causes to  
25 execute the distribution of printing data to  
distribution object storing units by distinguishing a  
plurality of distribution methods, including a first

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distribution method for distributing printing data by one page unit to each distribution object storing unit and a second distribution method for distributing printing data by one file unit to each distribution object storing unit, each other based on said first data.

45. An image recording apparatus according to  
Claim 37, wherein said controlling means causes to  
10 execute the distribution of printing data to  
distribution object storing units by distinguishing a  
plurality of distribution methods, including a first  
distribution method for distributing printing data by  
one page unit to each distribution object storing unit,  
15 a second distribution method for distributing printing  
data by one file unit to each distribution object  
storing unit and a third distribution method for  
distributing printing data for one job including a  
plurality of files by one job unit, each other based on  
20 said first data.

46. An image recording apparatus according to  
Claim 37, wherein said instruction included in said  
first data is based on management information including  
25 information indicating a discrimination name for each  
storing unit of said plurality of storing units,  
further comprising:

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storing means for storing said management information;

receiving means for receiving a second data for requesting said management information outputted from said data processing apparatus; and

transmitting means for transmitting said management information to said data processing apparatus outputting said second data in response to the reception of said second data by said receiving means.

47. An image recording apparatus according to  
Claim 37, further comprising notifying means for  
notifying a user outputting said printing data and a  
user corresponding to a distribution object storing  
unit that the distribution of said printing data to  
said storing unit has been finished in accordance with  
the end of the distribution.

20           48. A controlling method of an image recording apparatus that can be connected to an optional apparatus having a plurality of storing units and can receive a printing job from a remote data processing apparatus, wherein said data processing apparatus outputs a first data including an instruction to cause said image recording apparatus to distribute printing data to said plurality of storing units by a

distribution method in accordance with an instruction from a user inputted based on management information including information indicating a discrimination name of each storing unit of said plurality of storing units managed by the recording apparatus, comprising the steps of:

receiving said first data outputted from said data processing apparatus; and  
10 controlling to distribute the printing data received from said data processing apparatus in correspondence with said first data to a storing unit based on said first data received by said receiving means by a distribution method based on said first data.

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49. A computer readable storage medium storing a program for causing an image recording apparatus to execute the following steps, which can be connected to an optional apparatus having a plurality of storing units and can receive a printing job from a remote data processing apparatus, wherein said data processing apparatus outputs a first data including an instruction to cause said image recording apparatus to distribute printing data to said plurality of storing units by a distribution method in accordance with an instruction from a user inputted based on management information including information indicating a discrimination name

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of each storing unit of said plurality of storing units managed by the recording apparatus, comprising the steps of:

receiving said first data outputted from said data processing apparatus; and

controlling to distribute the printing data received from said data processing apparatus in correspondence with said first data to a storing unit based on said first data received by said receiving means by a distribution method based on said first data.

50. A controlling method of an image recording apparatus that can be connected to an optional apparatus having a plurality of storing units and can receive a printing job from a remote data processing apparatus, comprising the steps of:

receiving a first data including an instruction for designating a distribution method of printing data to said plurality of storing units outputted from said data processing apparatus; and

confirming the contents of said received first data executing the distribution of printing data by a unit designated by a user of said data processing apparatus to each distribution object storing unit based on the contents of said first data.

51. A computer readable storage medium storing a program for causing an image recording apparatus to execute the following steps, which can be connected to an optional apparatus having a plurality of storing 5 units and can receive a printing job from a remote data processing apparatus comprising the steps of:

receiving a first data including an instruction for designating a distribution method of printing data to said plurality of storing units outputted from said 10 data processing apparatus; and

confirming the contents of said received first data executing the distribution of printing data by a unit designated by a user of said data processing apparatus to each distribution object storing unit 15 based on the contents of said first data.